

SOME NEW EASTERN LEPIDOPTERA.

By THE HON. WALTER ROTHSCHILD, Ph.D.

PAPILIONIDAE.

1. *Troides aeacus formosanus* subsp. nov.

♂. Differs from the Indian form of *aeacus* in the white spots of the fringe of the forewing being much smaller, in the wedge-shaped internervular portions of the black marginal band of the hindwing being longer, in the abdomen being clothed with red hairs beneath at the base and bearing (like *aeacus* from Central and West China) two rows of black spots on each side ventrally.

Hab. South Cape, Formosa (received from Monsieur de la Touche), 2 ♂♂.

2. *Papilio nubilus musianus* subsp. nov.

♂. Differs from the Bornean form of *nubilus*, *Iris* VII. p. 314 (1894) (Brunei), in the following points: Forewing above with three postdiscal white patches, the uppermost between SC^3 and SC^4 , the following two longer, between SC^5 and R^2 , all three sinuate externally, an indication of a fourth patch between R^2 and R^3 , 7 mm. from edge of wing; marginal spots nine in number, uppermost between SC^3 and SC^4 , spot between SC^4 and SC^5 extremely small, visible only with a lens. — Hindwing above as in *nubilus nubilus*, no submarginal spots.

Underside.—Forewing with four postdiscal patches from SC^3 to R^3 , upper three just beyond apex of cell, fourth smaller, a little closer to cell than to outer margin; in inner angle, between M^2 and SM^2 , a small patch with a small spot in front.—Hindwing: submarginal lunules R^3 — M^2 very faintly marked; third discal patch measuring 10 mm. in length, externally obliquely cut off, slightly concave, the fourth more regular, $9\frac{1}{2}$ mm. long.

Hab. Upper Palembang district, 3° s. lat., 103° long.; 1 ♂, received from Mr. J. Völcker.

NYMPHALIDAE.

3. *Cynthia obiensis* sp. nov.

♂. Wings above deeper in tint than in *arsinoë* from Amboina.—Forewing: median series of bars heavy, very oblique, upper one close to upper angle of cell, bar M^2 — SM^2 6 to 7 mm. from tip of SM^2 ; admarginal line of lunules as in *arsinoë*, submarginal lunules very faint, except the last.—Hindwing: median series of bars very heavy, the line broken at veins, upper bar curved like letter S, bar R^3 — M^1 more or less longitudinal, being mostly placed along D^1 , bar M^2 —(SM^1) also marked.

Underside from base to median lines of bars rufous red, especially on hindwing.—Forewing: median bars not so heavy as above, but also placed in a very oblique row; apical white spots larger than in *arsinoë*, brown spot in inner angle small.—Hindwing: outer half rather heavily shaded with rufous red; median line of bars somewhat concave.

♀. *Upperside* much darker than in *arsinoë*, hence the cell-bars and the bars in marginal region not very conspicuous, mummy-brown. A broad pure white band across disc, $9\frac{1}{2}$ to $10\frac{1}{2}$ mm. wide at SC^{1-5} , its inner edge oblique (as line of bars in ♂), indented at R^1 , M^1 and M^2 , very oblique between (SM^1) and SM^2 ; the band is limited distally between SC^{1-5} and R^2 by two blackish brown lunules, the upper lunule nearly entirely fused with the blackish brown marginal area, there being only a very few white scales at its distal side; the second lunule more distinct, separated by a luniform white spot from the band; a third, very indistinct, brown lunule in the white band between R^2 and R^3 ; postdiscal bars appearing as black spots just at the outer edge of the band between R^2 and SM^2 ; two small submarginal white dots between SC^4 and R^1 , the second in one of the two specimens absent.—*Hindwing* mummy-brown up to median line of bars; these bars heavy as in ♂, followed by a russet tawny band, which becomes grey behind C, outer edge of band ill-defined, nearly straight, touching eye-spots; area between this band and submarginal line of bars darker brown; eye-spots with a rather large blue dot.

Underside russet, outer half paler.—*Forewing*: white band as above, discal and postdiscal luniform bars feeble, submarginal line indistinct behind, admarginal distinct, but not strongly marked.—*Hindwing*: discal band much paler than above, becoming whitish from R^1 to C.

Hab. Laiwui, Obi I., September 1897 (W. Doherty), 5 ♂♂, 2 ♀♀.

Easily distinguished from all races of *arsinoë* by the obliquely placed series of median bars of the forewing.

4. *Acraea parce buruensis* subsp. nov. -

♂ ♀. Differs from *A. parce parce* Staud., *Iris* IX. p. 193. t. 1. f. 8 (1896), from Mangiola, Sula Archipelago, in the following points: The basal half of the forewing from cell to internal margin is much more diaphanous, there being much less black scales on the upperside. On the underside of the hindwing the discal band and the submarginal spots are more ochreous; the partially scaleless patch in and before cell is very variable in extent, but it is always much smaller than in the Mangiola race, the posterior half of the cell remaining always black; the subbasal patch between costal and subcostal nervules is also much smaller, often absent. The submarginal spots are generally somewhat smaller than in *parce parce*; the posterior ones much shaded with black in ♂, sometimes scarcely traceable.

Hab. Mount Mada, Buru, September 1898, 3000 feet (Dumas).

PIERIDAE.

5. *Delias funerea buruana* subsp. nov.

♂. Differs from the Halmahera form of my *funerea*, figured in Smith & Kirby, *Rhop. Exot.* II. *Delias* t. VI. f. 1. 2 (1896), in the apex of the forewing above, the fringe of the forewing (except at inner angle) and of the hindwing, being black; the apical black area is small, extending 7 mm. along lower subcostals, but black colour of cellule before R^2 very restricted.

Underside: black apical area of forewing much smaller than in *funerea funerea*, the spots in it yellow, not white. Red markings of hindwing thinner, outer margin shaded with white scales.

Hab. Mount Mada, Buru, September 1898, 3000 feet (Dumas).

SPHINGIDAE.

6. *Cephanodes titan* sp. nov.

This is the largest species of the genus, only being approached by *Cephanodes woodfordi* Butl.

♀. *Upperside*: wings diaphanous, base, costal margin, and apex black, this apex $1\frac{3}{4}$ mm. wide between lower subcostal nervures, inner margin also black along its basal half. Base and abdominal margin of hindwings black.

Underside same as above, but margins brown, and base of both wings orange.

Head, palpi, thorax, and abdomen above deep velvety black with iridescent steel-blue lights. Anal tuft orange-tawny in the centre. *Underside*, palpi buff, legs and thorax orange, abdomen as above, sixth and seventh segments strongly intermixed with orange, anal tuft more heavily marked with tawny orange than above, eyes bordered with white beneath.

Length of body 41 mm.

„ „ forewing 38 mm.

Hab. Amboina.

7. *Panacra buruensis* sp. nov.

This very distinct species is most nearly allied to *P. mira* Wlk. (= *turneri* Misk.).

Head and thorax above blackish chocolate, both with a stripe on each side fawn-colour, thorax besides with a central stripe of the same colour; abdomen dark brown, with a whitish grey middle line, sides much mixed with red. *Underside* of body deep dragon's-blood red (Ridgway, *Nomencl. of Col.* Pl. VII. S). Palpi above dark fawn-colour, more reddish below.

Wings above brown.—Forewing much clouded with deep chocolate, this colour forming a large irregular patch extending from R^3 to costal margin, narrowing in front, connected by a narrow band with a second patch situated at internal margin, both patches ill-defined, a third patch at internal margin near hinder angle of wing; from the inner side of this last patch runs a deep chocolate line to the apex of the wing, the line curved distad between the nervules, 5 mm. distant from outer margin at R^1 , slightly curving outwards from M^2 to R^1 ; disc at proximal side of this line with glossy grey scaling; a band of $1\frac{1}{2}$ mm. width from apex of wing R^3 , curved, not composed of lunules, continued as an indistinct line to patch at inner edge of wing, 3 mm. distant from postdiscal line at M^1 , touching it in front, interspace faintly tinged with ochreous; a submarginal line, consisting of lunules curved proximad, less distinct than postdiscal line.—Hindwing: Prout's brown (Ridgway, *l.c.* Pl. III. 11), paler towards base, a deeper brown submarginal band, very ill-defined, shading off at both sides into ground-colour; fringe up to middle of outer margin nearly white.

Underside dark rufous: interno-basal area of forewing and outer margin of fore- and hindwing dark drab-brown; two parallel lines across disc of both wings of same colour, upper ends somewhat curved proximad, with an indication of a third line between the two.

Length: forewing 34 mm.

„ hindwing 20 mm.

Hab. Monnt Mada, Buru, 3000 feet, September 1898 (Dumas)

SATURNIIDAE.

8. *Coscinocera hercules heros* subsp. nov.

♂. Differs from the three known forms of *hercules* (see Nov. Zool. V. p. 99. 1898) especially in the shape of the small eye-spots.

Upperside somewhat darker than in *hercules hercules*, the bands a little more obscure. Eye-spot of forewing $3\frac{1}{2}$ mm. distant from discal band, oblique, irregularly ovate, costal and basal sides forming almost a semicircle, outwardly as bluntly pointed as in *omphale*, diameters 11 and 7 mm. : hyaline centre 6 mm. long, standing obliquely to veins, triangular, but the angles rounded off, upper edge only $2\frac{1}{2}$ mm. long (in the direction of veins). Eye-spot of hindwing transverse, $7\frac{1}{2}$ mm. long, slightly oblique, ovate, pointing backwards, 5 mm. wide, outer side more oblique than inner side, 6 mm. distant from black discal line ; hyaline centre transverse, a mere dash, of barely 1 mm. width.

On underside the hyaline spots are encircled with a dirty ochraceous line upon which follows costally and proximally a purplish black line, the hyaline spot of the hindwing longer than above and wider.

Hab. Rossel I., Louisiade Archipelago (A. S. Meek, March 1898), 1 ♂.

I have also received a pair of *Coscinocera hercules* from Sndest Island : the ♂ (which is badly damaged, both tails being wanting) agrees with the type of *hercules heros* almost perfectly, only the eye-spots of the wings being more rounded and slightly smaller. The ♀ has the bands on both wings much more strongly and clearly marked than the ♂, the eye-spots agree in shape with those of the ♂, but are larger : widest distance of black ring of the spot of the forewing from black half-moon of cell $4\frac{1}{2}$ mm., shortest distance from discal black line $1\frac{1}{2}$ mm.; black ring of the spot of the hindwing 9 mm. distant from subbasal black line, 4 mm. from discal black line.

GEOMETRIDAE.

9. *Milonia pumilio* sp. nov.

♀. Body above and below glossy metallic green-blue : abdomen black beneath.

Wings black. Upperside, forewing without gloss, except at extreme base, faintly blue in sidelight, a short streak at base before SM^2 , and a curved band across disc orange-ochraceous ; the band of nearly even width, 4 mm. broad at R^3 , more distal anteriorly than in *laticitta*, and more distal posteriorly than in *glauca glauca* ; fringe all black as in *glauca*.—Hindwing as in *glauca* from the Southern Moluccas.

Underside : band as above, metallic gloss as in *glauca*, more green-blue.

Length of forewing : $21\frac{1}{2}$ mm.

Hab. Sumba, September 1896 ; 1 ♀, received from Mr. H. Fruhstorfer. Probably only a small race of *glauca*.

AGARISTIDAE.

10. *Episteme conspicua sumatrana* subsp. nov.

♀. Body as in Bornean *conspicua*, Nov. Zool. III. p. 29. n. 6. (1896), but spots on mesonotum larger, with a bluish tint.

Forewing: whitish blue basal spots much larger than in *conspicua*, a small pale yellow spot at base of cell, extending a little beyond M; a transverse spot of same colour beyond middle of cell, 3 mm. broad, extending beyond SC, but not reaching edge of wing, followed behind by a large trapeziform patch, that expands between cell and SM², with a few yellow scales behind SM², widest behind, deeply concave proximally; discal band as in *conspicua conspicua*, deeper yellow; a series of eight small white submarginal dots between SC³ and SM², the last of which before SM² in the same place where there stands a larger yellow spot in Bornean *conspicua*, the upper six dots closer to band than in *conspicua*.—Hindwing as in *conspicua*, black discal half-band narrower.

Underside: postmedian cell-spot of forewing and patch behind it fused to form a pale yellow band; both this band and the discal one deeper in colour than in *conspicua conspicua*; submarginal spots all white as above (inclusive of posterior one).

Hab. Padang Sidempoean, West Sumatra (Eriesson, 1898), 1 ♀.

E. conspicua was hitherto known only from Mount Kina Balu, North Borneo.

SYNONYMICAL NOTE.

Ambulyx seroculata Grote is not a variety of *A. gunnascus*. The description given by Grote agrees exactly with the beautiful insect figured by Oberthür as *A. deputseti*, *Et. d'Ent.* VI, p. 31, t. 5, f. 3 (1881). I possess three specimens from Colombia and Merida, Venezuela; the one Colombian example was caught by Professor Bürger in Bogota, in December 1896, at the electric light. The name of *deputseti* sinks as a synonym of *seroculata*.

A. crethon Boisd. from Peru (?) and *schausi* Rothsch. from Petropolis are the same species as *A. eurysthenes* Feld. from Colombia, though they represent most likely geographical forms. Felder's name has priority.

"*Eusemia*" *glossatrix* Westwood (1881), erroneously said to be from South Africa, is a synonym of *Serobigera vulcania* Butl. (1875) from Burma.